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10/649,516

08/25/2003

Odd Steijer

P16567-2/53810-00005USPT

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11/30/2005

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EXAMINER

DUPUIS, DEREK L

ART UNIT

PAPER NUMBER

2883

DATE MAILED: 11/30/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/649,516

Applicant(s)

STEIJER ET AL.

Examiner

Derek L. Dupuis

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-23 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 August 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.



Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Drawings

1. The drawings were received on 8/25/2003. These drawings are accepted by the examiner.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claim 12 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

4. Claim 12 recites the limitation "wherein the PCB comprises" in line 1. There is insufficient antecedent basis for this limitation in the claim. The examiner has interpreted this limitation to refer to the PCB described in claim 11. Since claim 12 depends only on independent claim 1, the limitation lacks antecedent basis.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1-3, 6-17, 19-23 are rejected under 35 U.S.C. 102(b) as being anticipated by

Tonai et al (US 6,234,686 B1).

7. Regarding claims 1, 2, and 11, Tonai et al teach an opto-mechanical interface apparatus (seen best in figure 9) comprising an optical hybrid and an electronic hybrid adapted to receive electronic components. The optical hybrid comprises an optical chip (18), an optical fiber connector (66) and a carrier (16). The electronic hybrid comprises a printed circuit board (PCB) (6) and electronic components are mounted on the PCB (see column 5, lines 16-49 and column 5, line 61 to column 6, line 9). The apparatus further comprises an adapter fixture (8a-d) for fixing the electronic hybrid and the optical hybrid to one another to form a combined hybrid. A lower-capsule part (80, 96, & 102) mates with an upper-capsule part (82) to enclose at least a part of the combined hybrid as shown in figure 9.

8. Regarding claim 3, Tonai et al teach an opto-mechanical interface apparatus as discussed above in reference to claim 2. Tonai et al also teach that the optical chip (18) can be a receiver chip (see column 5, lines 39-42).

9. Regarding claims 4 and 5, Tonai et al teach an opto-mechanical interface apparatus as discussed above in reference to claim 1. It has been held that a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations. *Ex parte Masham*, 2 USPQ 2d 1647 (1987). The claimed “holes” are intended for allowing air to pass into the capsule. The holes (80a-80d and 86 and 88) in the upper and lower capsule parts meet this limitation because they are capable of allowing air to pass into the capsule.

10. Regarding claims 6-10, Tonai et al teach an opto-mechanical interface apparatus as discussed above in reference to claim 1. Tonai et al teach that the upper-capsule part (82) and the lower-capsule part (80, 96, & 102) mate together via snap-locking as shown in figure 9. The

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upper and lower capsule parts are mated together so as to form at least one cavity as shown in figure 9. The cavity is divided into two cavities (90 and 92). The first cavity (90) includes receiver electronics (22) and the second cavity (92) includes transmitter electronics (52) (see figures 8 and 9, and column 10, line 39 to column 11, line 62). The first cavity (90) can be considered an upper cavity and the second cavity (92) can be considered a lower cavity based on the orientation of the device. The terms “upper” and “lower” are used as references to one another and therefore one cavity is above the other when the device is oriented on its side.

11. Regarding claim 12, Tonai et al teach an opto-mechanical interface apparatus as discussed above in reference to claims 1 and 11. The device further comprises pins (10a-g, 12a-g, 40a-g, and 42a-g) for making external electrical connections and a stud (10a-g, 12a-g, 40a-g, and 42a-g) for providing stability during assembly. Tonai et al teach that the elements (10a-g, 12a-g, 40a-g, and 42a-g) serve the dual purpose of providing an electrical connection and of providing mechanical support. Since the elements serve the function of a pin and a stud, some of the elements meet the limitation of being “pins” and others can be used to meet the limitation of “studs”.

12. Regarding claim 13, Tonai et al teach an opto-mechanical interface apparatus as discussed above in reference to claim 1. The lower capsule part (80) includes a lead-through for receiving a protrusion of the electronic hybrid where the protrusion is either a pin or a stud as can be seen in figure 9.

13. Regarding claims 14 and 15, Tonai et al teach an opto-mechanical interface apparatus as discussed above in reference to claim 1. It has been held that the recitation that an element is “adapted to” perform a function is not a positive limitation but only requires the ability to so

perform. It does not constitute a limitation in any patentable sense. *In re Hutchison*, USPQ 138.

The upper and lower capsule parts have the ability to perform the claimed function of positioning and fixing the contents of the combined hybrid as can be seen in figure 9.

14. Regarding claim 16, Tonai et al teach an opto-mechanical interface apparatus as discussed above in reference to claim 1. Tonai et al teach that the apparatus includes a transmitter (48) in module (64) and a receiver (18) in module (30). The apparatus also includes an optical fiber (shown in figure 7).

15. Regarding claims 17, 19, and 23, Tonai et al teach a method of assembling an opto-mechanical interface apparatus as discussed above comprising the steps of forming a combined hybrid by attaching an adapter fixture to an electronic hybrid and attaching an optical hybrid to the electronic hybrid as shown in figures 1-6. Tonai et al further teach that the hybrid is placed into a lower capsule part (80) (shown in figure 8) which is then mated with an upper capsule part (82) as shown in figure 9. The mating of the upper and lower capsule parts encloses at least part of the combined hybrid as shown in figure 9.

16. Regarding claims 20-22, Tonai et al teach a method of assembling an opto-mechanical interface apparatus as discussed above in reference to claim 17. The step of mating the upper and lower capsules includes snap-locking as can be seen in figure 9. The step of mating also includes fixing the contents of the apparatus as can be seen in figure 9. The step of placing the combined hybrid in the first capsule part includes positioning the combined hybrid in the first capsule part as shown in figure 8.

17. Regarding claim 18, Tonai et al teach a method of assembling an opto-mechanical interface apparatus as discussed above in reference to claim 17. Tonai et al also teach testing at

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least one component prior to mating the upper and lower capsules (see column 10, lines 12-25).

This test ensures that the ferrule is properly aligned with the opto-electronic device. By testing the alignment, the functionality of the device is also tested.

Conclusion

18. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. *Naito (US 6,309,113 B1)* meets many of the limitations of claims 1 and 17 as shown in figure 1. *Fukuda et al (US 5,675,685)* meet many of the limitations of claims 1 and 17 as shown in figures 1 and 5. *Steijer et al (US 6,945,709 B2)* meet many of the limitations of claims 1 and 17, however, this reference cannot be used as prior art because it was filed after the priority date claimed by applicant. The foreign application related to this reference was not published prior to the priority date of the instant application.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Derek L. Dupuis whose telephone number is (571) 272-3101. The examiner can normally be reached on Monday - Friday 8:30am-4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Frank G. Font can be reached on (571) 272-2415. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Derek L. Dupuis
Group Art Unit 2883



**KAVEH KIANNI
PRIMARY EXAMINER**